

SHORT CHANGE GEAR

Priority from the European Patent Application 03100580.4 is claimed, the content of which is herewith incorporated entirely by reference.

FIELD OF THE INVENTION

The present invention relates generally to transmissions for use in motor vehicles and, more particularly, to short change gears.

BACKGROUND OF THE INVENTION

A transmission is known from the European Patent EP 1 067 312. This kind of transmission can be configured as manual or automatic change gear or also as a power shift gear. In all of these variations the 2 output shafts are in torque transmitting connection with the drive shaft. In the manual and the automatic gear change version the transmission is provided with an input shaft that is connected by means of several gear sets with the first and with the second output shaft. Each gear set is provided with a fixed gear and a shiftable loose gear. Even though all gear shift mechanisms for shifting the loose wheels are located on the output shafts the interleaved positions of the fixed gears on the input shaft results in a certain overall length of the transmission that is longer than the space needed just for the loose wheels with the gear shift mechanisms. This applies also for the power shift gear version comprising 2 input shafts positioned coaxially to each other and that are likewise interconnected with the output shafts by means of several gear sets.

In the US 6 427 550 a twin-clutch transmission is described comprising one input shaft and one intermediate shaft, said intermediate shaft being connected by means of a chain drive with a transfer shaft coaxially disposed in relation to the input shaft. Input shaft and intermediate shaft are connected by means of several wheel sets with the output shaft. Even though this avoids the problem of interleaved positioning of the various gear sets since the loose wheels on the intermediate shaft and on the input shaft mesh with the same fixed wheels on the output shaft it is a known problem in the prior art that such